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# China Report

## AGRICULTURE

## No. 165

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# CHINA REPORT

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# REPORTS ON NEW DEVELOPMENTS IN STATE FARMS

## Agricultural Reclamation Achievement Statistics

Beijing ZHONGGUO NONGKEN [CHINESE AGRICULTURAL RECLAMATION] in Chinese No 6, 24 Jun 81 pp 2-4

[Article by the Planning Bureau of the Ministry of State Farms and Reclamation: "National Agricultural Reclamation Achievements in 1980"]

[Text] In 1980, the state farms and reclamation system conscientiously implemented the spirit of the Party's Third Plenum, followed the policies and guidelines established by the Party Central Committee to readjust enterprises, continued to improve business management, implemented the contracting work of finances, expanded the autonomy of enterprises, established a healthy production responsibility system, actively popularized new scientific research achievements, test-operated joint enterprises of agriculture, industry, and commerce, and gradually opened up the links between production, supply, and marketing. Greater achievements were realized in both production and construction.

State farms and reclamation enterprises overcame various difficulties and realized good harvests, despite severe damage by floods in the south and drought in the north of the nation. The total yield of food grains and soybeans, the per mu yield, the amount turned over to the higher authorities, the total production value, and profits--which are the five major indicators--all surpassed the highest levels in history. Overall increases were realized in the yield of food grains, cotton, oil, sugar, and tea. The total production value of industry and agriculture was 8.6 billion yuan, realizing a profit of 536 million yuan; the number of enterprises realizing a profit reached 60 percent.

### I. State Farms and Reclamation Enterprises, Population and Workers

Over the past year, the state farms and reclamation system were adajusted and reorganized, and at the end of the year the number of various enterprises totaled 2,485. Of this number, there were 2,093 farms, 225 industrial enterprises exercising independent accounting, 40 building enterprises, 25 transportation enterprises, 79 commercial enterprises, and 23 others.

Among the 2,093 farms, 779 were under the jurisdiction of the province, the city, and the autonomous region; 330 were under the jurisdiction of the locality, the city, and the league; and 979 were under the jurisdiction of the county and the banner. The number of provincial farms increased by 20, the number of local farms decreased by 6, and the number of county farms increased by 30.

Of the nation's state farms and reclamation farms, those engaged in industry numbered 5,847, and those in the network of agricultural reclamation and commerce totaled 5,900.

The total population in agricultural reclamation throughout the nation increased by 252,000 persons over the previous year, reaching 11.36 million. Among them, 147,000 persons were born that year and 39,300 persons died. The net increase was 0-9 percent.

The number of workers in the state farms and reclamation system decreased by 64,100 persons from the previous year. At years end, there were 4,920,300 persons. There were another 343,700 persons in the labor force of the combined farms of communes and brigades. The total labor force of workers and commune and brigade laborers was some 5,264,100 persons--46.43 percent of the total population.

## II. Agricultural, Forestry, Livestock, and Rubber Production

The state farms and reclamation system occupies a total area of 427 million mu of land. There are 66.82 million mu of cultivated land (2.39 million mu of cultivated land belonging to the commune and brigade collective). 176,83 million mu of grasslands, 9.07 million mu of water surface, and a total of 33.72 million mu in forest land, tea plantations, fruit farms, and rubber plantations.

The total production value of agriculture was 4.78 billion yuan. The area in food grains and soybeans covered 53.61 million mu; the total yield was 15.33 billion jin. The area covered in cotton was 2.45 million mu; the total yield was 1.86 million dan. The area of oil-bearing crops was 3.33 million mu; the total yield was 2.31 million dan. The area of sugar crops was 1 million mu; the total yield was 29.22 million dan. The area of tea covered 520,000 mu; the total yield was 321.000 dan. The area of fruit plants covered 1.14 million mu; the total yield was 5.28 million dan. The area of jinseng covered 3.78 million square meters; the total yield was 1.35 million jin.

The area of forest land was 31.69 million mu. Of this, the area forested that year was 1,087,000 mu, a 7.4-percent coverage.

Newly established rubber plants covered 289,600 mu, totaling 4.83 million mu. The total yield of dry rubber reached 103,000 tons.

The area planted for sisal hemp reached 210,000 mu; the total fiber yield was 11,900 tons.

The number of large livestock at year's end was 2.01 million head. The number of sheep at year's end was 6,995,000 head. The number of hogs at year's end was 3,987,000 head. The total yield of meat was 470 million jin. The total yield of milk was 650 million jin.

## III. Industrial Production

There were 6,072 State farm and reclamation industries and enterprises, foodstuff industries numbered 1,611, building materials industries numbered 1,126, and machine industries numbered 1,085.

The total value of industrial production in 1980 reached 3.82 billion yuan. calculated in constant figures. This was an increase of 10.4 percent over the previous year.

Those industries contributing a relatively large proportion of production value by profession were as follows: the foodstuffs industry contributed 30.2 percent; the machinery industry contributed 17.5 percent; the textile industry contributed 13.1 percent; the chemical industry contributed 8.2 percent; the building materials industry contributed 7 percent; the petroleum industry contributed 5.8 percent; the paper manufacturing industry contributed 2.9 percent; and the coal industry contributed 2.1 percent.

In the main, state farm and reclamation industries produced 98 products, among them: 4,143,000 tons of raw coal, 498 million kilowatt-hours of electric power, 98,000 tons of chemical fertilizers, 490,000 tons of cement, 4.35 billion bricks and tiles, 352,000 tons of lime, 116 million meters of cotton cloth, 77,000 tons of machine-made paper, 153,000 tons of machine-processed sugar, 54,000 tons of white wine, 21,400 tons of dairy products, 43,600 tons of edible vegetable oils, 286,000 dan of finished tea, 8,338 tons of white coir rope, and 5.3 million pieces of medium and small farm tools. Production of raw coal, electric power, cement, bricks and tiles, cotton cloth, machine-refined sugar, dairy products, edible vegetable oils, finished tea, and medium and small farm tools all increased. Production of lime, chemical fertilizers, machine-manufactured paper, and white wine decreased. The quality of industrial products improved, and the varieties increased; some products were listed as superior quality products.

The industries and enterprises of the nation's state farm and reclamation system practicing independent accounting realized a profit of 130 million yuan.

## IV. Building Industry, Transportation Industry, and Commerce

There were 40 engineering construction enterprises in the state farm and reclamation system that practiced independent accounting; they employed 41,300 workers. The major construction projects completed were: 394,400 square meters of housing and markets, 21 mechanized wells, and 1,161,800 cubic meters of earth and rocks. Total income was 82.07 million yuan. Twenty-four enterprises earned a profit, while 16 suffered a deficit. The balance between profit and loss showed a deficit of 100,000 yuan.

There were 25 transportation enterprises and 37 transportation companies in the state farm and reclamation system that practiced independent accounting. They owned 2,116 trucks, 69 buses, and 35 barges, and they transported 1.46 million tons of merchandise. Shipments totaled 336 million ton-kilometers. Passenger transport numbered 457,000 person-times. Passenger travel was 31,83 million person-kilometers. Total income was 74.11 million yuan. Except for the deficits of the state farms and reclamation systems in Xizang and Qinghai, the others all realized a profit, with the balance between profit and loss showing a profit of 7.09 million yuan.

The network of state farms and reclamation and commercial enterprises numbered 5,900, with 47,200 workers. It completed total retail sales of social commercial products worth 1.429 billion yuan, and realized a profit of 50.45 million yuan.

## V. Agricultural Products Handed Over for Sale and Export

In 1980, the total amount of agricultural products handed over by the nation's state farms and reclamation system was worth 4.22 billion yuan. A total of 6.1 billion jin of food grains and soybeans were handed over for sale. The commercial commodities percentage was 39.9. The amount of meats handed over for sale totaled 274 million jin.

The state farm and reclamation system exported over 200 types of products worth a total of 450 million yuan in Renminbi. The major export products were 156,000 tons of soybeans, 27,000 tons of rice, 440,000 head of live hogs, 18,000 head of live cattle, 138,000 dan of tea, 34,000 jin of pilose antlers, 77,000 jin of jinseng, and 916 tons of hops. Among the export products, agricultural and animal handicraft products constituted over 85 percent, while industrial products constituted 14 percent.

## VI. Capital Construction

The nation's state farms and reclamation system completed a total investment of 1.62 billion yuan in capital construction. The state's budgeted investment was 610 million yuan, constituting 37.62 percent; funds from private sources amounted to 810 million yuan, constituting 50.1 percent. Domestic loans amounted to 49 million yuan, constituting 3.02 percent. Foreign capital utilized amounted to 11 million yuan, constituting 0.70 percent. The remaining capital of 139 million yuan constituted 8.56 percent. The proportion of state investment was smaller than the previous year, and the proportion of private funds increased.

In total investment, the investment in agricultural construction amounted to 1.104 billion yuan, constituting 67.99 percent (investment in rubber and tropical crops amounted to 272 million yuan, constituting 16.73 percent of the total investment). Investment in the buildup of industries practicing independent accounting amounted to 89.78 million yuan, constituting 5.53 percent. Investment in traffic and telecommunications construction amounted to 7.56 million yuan. Investment in the construction of commerce and foreign trade amounted to 14.41 million yuan. Investment in culture, education, and health amounted to 20.03 million yuan, each constituting a definite proportion.

Newly added productivity or gain that year was mainly as follows: 734,000 mu of cultivated land, reclamation of 290,000 mu for rubber plants, 288,500 mu of established rubber plants, 2,168,000 mu for rubber plant cultivation, and 430,000 mu of grassland construction. Newly added were 3,068 units (178,000 horsepower) of large and medium-size tractors, 938 units (11,000 horsepower) of hand tractors, 1,424 units (126,000 horsepower) of combines, and 1,891 trucks, 46 reservoirs

(260 million cubic meters), 680,000 square meters of housing for livestock, fowl and production, 1,700 warehouses (570,000 square meters), 3.4 million square meters of living space, and 477,000 square meters of school housing. An annual sugar productivity of 13,700 tons was added, and productivity of 16,500 tons in paper production was newly added.

## VII. Labor Wages

The nation's state farms and reclamation system had 4,920,300 workers. Each worker had an average annual income of 641 yuan, an increase of 87 yuan over the previous year.

## VIII. Scientific Research, Education, Health

The state farms and reclamation system had 48,200 scientific and technical workers; scientific and technical personnel constituted 1 percent of the total number of workers. Scientific research costs in agricultural reclamation in 1980 amounted to 19.21 million yuan, and subsidies for scientific research amounted to 8.84 million yuan. Each scientific research member averaged 4,730 yuan of scientific research funds.

The state farms and reclamation system had 14,147 various types of schools, 161,400 teachers, and 2.84 million students, constituting 25 percent of the total population. The ratio of teachers to students was 1:17.6.

The state farms and reclamation system had 14,346 medical units, 47,800 beds, and 19,000 doctors. There were 4.3 beds for every 1,000 persons, 11.3 percent less than the national average of 4.85 beds [per 1,000 persons]. Every 1,000 persons shared 1.69 doctors, 43.5 percent less than the national average of 2.99 doctors [per 1,000 persons].

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# Success of Sichuan Joint Venture

Beijing ZHONGGUO NONGKEN [CHINESE AGRICULTURAL RECLAMATION] in Chinese No 6, 24 Jun 81 pp 7-8

[Article by the Joint Livestock, Industry, and Commerce Company of Hongyuan County, Sichuan Province: "Joint Management Has Changed the Backward Situation of Livestock Production"]

[Text] Using the Livestock Farm as the Foundation for Joining With Country-Operated Processing Plants

Our country is a livestock production county: grasslands are widespread, and resources are rich. But because livestock production has remained at a raw material production level for a long period, development of production has been hindered. Last year, according to the spirit of the directives of the higher authorities, in order to enliven the economy in the livestock regions and hasten steps toward modernization of livestock production, the county committee organized forces to survey and study the problems of joint operation of livestock production, industry, and commerce throughout the county, and sent people to inspect the Roergai joint enterprises. On this basis, a joint business company of livestock production, industry, and commerce was founded.

The company, founded on the basis of five state-run livestock farms in a joint economic venture with the county powdered-milk factory, the joint meat factory, the leather and tanning factory, the county supply and marketing cooperative, and 20 livestock production brigades and 7 communes livestock farms. This type of joint venture has been established on a voluntary and mutually beneficial basis. The ownership system, subordinate relationships, and financial relationships have not changed. The goal of the joint venture is livestock production, with comprehensive operations in livestock production, processing, and commerce. All raw materials are processed into industrial products insofar as possible for direct sale, reducing the number of middlemen. Most of the profits are returned to the farms and the brigades. The distribution of economic profits of the joint enterprises takes into consideration the benefits of the state, locality, enterprise, and collective workers (commune members): (1) Seventy-five percent of the profits realized from the sale of surplus products which cannot be processed at present are returned to the farm and brigades; 10 percent are returned to the business units; and 15 percent are returned to the joint enterprise as funds for the development of production. (2) Seventy percent of the profits realized from roughly processed products are returned to the farm and brigades; 15 percent are returned to the processing units; and 15 percent are retained for the joint venture company; (3) Forty percent of the profits realized from refined processed products are returned to the farm and the brigades; 50 percent are given to the processing units; and 10 percent are retained for the joint venture company. Implementation of this method has mobilized the enthusiasm of all sectors.

## Implementation of Joint Venture Has Increased Economic Results

The major achievements after implementation of the joint venture have been as follows:

1. Livestock production has developed greatly. At the end of 1980, the total number of livestock throughout the county reached 480,000 head, a total increase of 21.14 percent. The major products and yields were: 420,000 jin of fresh milk, 990,000 jin of butter, 4.04 million jin of meats, 260,000 jin of wool, 49,000 pieces of sheepskin, 28,000 pieces of cowhide. There were five kinds of products that yielded a surplus over plans: they were meats, milk, hides, wool, and fritillaria bulbs, including 790,000 jin of processed meats, 758,000 jin of milk, and 4,042 pieces of lambskin.

2. An increase of 1,245,000 yuan in income was realized--620,000 yuan from meats, 74,000 yuan from fresh milk, and 176,000 yuan from hides and wool. Profits returned to the farms, brigades, and processing units amounted to 896,000 yuan, constituting 72 percent of the profits realized. Profits returned to the farms and brigades realized from meats amounted to 291,000 yuan. Profits returned to the farms and brigades realized from fresh milk amounted to 29,000 yuan. All the profits realized from fritillaria bulbs were returned to the farms and brigades. After the return of the profits, income from each jin of beef was 76 percent higher

than the procurement price, each jin of mutton realized an increase of 90 percent in income, and fresh milk realized an increase of 10 percent in income.

3. State livestock farms have developed their demonstration function and have stimulated the development of production. The average total increase of livestock at the five livestock farms rose from 19.8 percent the previous year to 22.8 percent, some 8 percent higher than the average of the entire county. Total income of the enterprise increased from the previous year's 726,000 yuan to 904,000 yuan, an increase of 24.5 percent, while profits increased from 25,000 yuan the previous year to 122,900 yuan--a 3.8-fold increase. Four farms turned deficits into profits. The wages of livestock workers increased from a per capita average of 367 yuan the previous year to 584 yuan, an increase of 58.9 percent. Livestock communes and brigades also increased their income.

Several Conclusions

1. The joint venture of livestock production, industry, and commerce must undergo a period of practical examination. Practice in 1980 has proved that the road of establishing joint livestock production, industry, and commerce ventures is correct, and it should be gradually perfected in the future to firmly carry on joint ventures of livestock production, industry, and commerce.

2. Joint livestock production, industry, and commerce ventures must be managed along economic lines. Production must be developed under the guidance of state plans, and economic means must be used to mobilize the enthusiasm of every sector. A surplus of the company's five types of products over plans in 1980 were all realized after the completion of state plans. From the beginning, the joint venture paid attention to returning to the farms and brigades most of the profits realized by livestock product processing, and included them in the contracts. At yearend, promises were fulfilled according to the contracts. The farms and brigades all benefited from the economic joint venture, and enthusiasm increased.

3. Joint ventures of livestock production, industry, and commerce must be suited to local circumstances. They must develop from a small scale to a large scale, from the simple to the difficult, and progress must be orderly and develop gradually.

4. Joint livestock production, industry, and commerce ventures must insist on taking livestock production as the foundation, take the processing of livestock products as the key, and gradually move away from single livestock production to realize unification of livestock production, industry, and commerce.

5. Joint ventures of livestock production, industry, and commerce must fully realize the superiority of the joint economic venture so that the state can collect more taxes, the company can realize increased accumulation, the factory can realize increased profits, the farms and brigades can realize increased income, and the workers and commune members can realize increased income--i.e., realize the "five increases." After implementation of the joint business venture, the taxes submitted by just two processing units increased from 212,000 yuan the previous year to 288,000 yuan, an increase of 35.87 percent. The income of the

farms and brigades in 1980 increased 20.4 percent over the previous year, equivalent to an average increase of 37.9 yuan in the personal income of the people engaged in livestock production throughout the entire county. One-half of this was received from the increased income of the joint venture. While the processing units increased their profits, they increased rewards and collective benefits by 8 percent according to policy stipulations. The net income of each person in the livestock production brigades of the entire county increased from 194 yuan the previous year to 240 yuan--an increase of 27.7 percent.

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CSO: 4007/548

## RESPONSIBILITY SYSTEM MEASURES FOR STATE FARMS

HK160248 Beijing CHINA DAILY in English 16 Sep 81 p 1

[Text] The system of full responsibility has been adopted on state-owned land reclamation farms throughout China and progress has been made. Further measures have been taken to improve the system.

Under the system, the state sets tasks for farms to complete within a specific time.

Farms are entitled to use their surplus as seen fit if they overfulfill their tasks. They have to take responsibility and solve financial problems on their own if they fail to fulfill the tasks and have a deficit.

When the system was adopted in 1979, instead of having losses 12 years running on state-owned land reclamation farms made a profit of 520 million yuan. Total grain output reached 14 billion jin (1.1 pounds) and 4.86 billion jin was delivered to the state, a rise of 12 percent and 27 percent over 1978 respectively. In 1980 they made a profit of 659 million yuan, produced 15.3 billion jin and delivered 6.1 billion jin to the state.

A meeting of the Ministry of Land Reclamation and the Ministry of Finance adopted four new measures to improve the system:

1. The extent of the full responsibility system has been clearly defined. Each higher office is to set a clear task for their subordinate organizations to carry out.

2. The task should be carefully defined. Those for farms which can make more profits because of better land conditions and equipment should be heavier.

3. Surpluses should be used properly--for reproduction, technological innovations, bonuses and for reserve funds.

4. Management and financial discipline should be strengthened.

CSO: 4020/248

## BRIEFS

SHELLED PEANUT EXPORT--Beijing, 12 Sep (XINHUA)--China exported 240,000 tons of shelled peanuts between November 1980 and July this year, according to the China National Cereals, Oils and Foodstuffs Import and Export Corporation. Annual exports ranged from 20,000 to 40,000 tons between 1969 and 1979, the corporation said. [Text] [Beijing XINHUA in English 0707 GMT 12 Sep 81 OW]

PROSPEROUS COUNTIES--Beijing, 7 Sep (XINHUA)--According to data released recently by the Ministry of Agriculture, China in 1980 had 343 counties with per-capita income from collective sources exceeding 150 yuan. This was 50 percent more than in 1979 and accounted for 14.2 percent of the total number of 2,404 counties in the whole country. Statistics show that among these well-to-do counties 143 had an average per-capita income from collective sources exceeding 200 yuan, 22 exceeding 300 yuan and 5 exceeding 400 yuan. The county with the highest per-capita income was Rutog County of Xizang Autonomous Region, where each individual earned an average income of 488.47 yuan. [OW081331 Beijing XINHUA Domestic Service in Chinese 1243 GMT 7 Sep 81]

CSO: 4007/579

## ANHUI

## BRIEFS

LUAN PREFECTURE RICE--As of 9 September, Luan Prefecture, Anhui, had procured 304.18 million jin of rice, overfulfilling the year's early rice procurement task by 1.4 percent. The prefecture has reaped a good early rice harvest from more than 2.16 million mu of ricefields this year. [OW141312 Hefei Anhui Provincial Service in Mandarin 1100 GMT 11 Sep 81]

HUAIYUAN COUNTY FARM MACHINERY--Hefei, 14 Sep (XINHUA)--In less than 3 years, the number of hand-opened tractors in Huaiyuan County, Anhui, has increased by more than 5,000 units. This is over three times the total number of farm machinery purchased by the county over the previous 20 years and more. Last year, over 680,000 mu, or over 40 percent, of the farmland in Huaiyuan County were tilled by farm machinery. [Beijing XINHUA Domestic Service in Chinese 0030 GMT 14 Sep 81]

CHUXIAN GRAIN PRODUCTION--Hefei, 15 Sep (XINHUA)--According to GUANGMING RIBAO, Anhui's Chuxian Prefecture has promoted both family planning and the system of responsibility in production since 1979. As a result, the total grain output of the prefecture increased from 2.56 billion jin in 1979 to 3.21 billion jin in 1980, while the natural population growth rate dropped from over 15 per thousand in 1977 to 7.29 per thousand in 1980. [OW201319 Beijing XINHUA Domestic Service in Chinese 0743 GMT 15 Sep 81 OW]

CSO: 4007/592

## BEIJING

# CONTRACTS SIGNED BETWEEN SCIENTIFIC, FARMING UNITS

Beijing BEIJING RIBAO in Chinese 20 Jul 81 p 1

[Article: "Scientific Research Units, Production Units Cooperate To Popularize Agricultura Techniques"]

[Text] As of June, Beijing City's agricultural science and technology units had already implemented and were negotiating with the production units a total of 250 technical service contracts. These contracts include comprehensive jobs and individual jobs. They include demonstration of application of research achievements and also experimental research for production units. They include assistance in technical training and also services to provide for consultation, the testing of samples, and the making of specimens.

The signing of technical service contracts in the city began on a trial basis last year; 12 contracts were signed, and good results were achieved. Changping County's Forestry Bureau signed a fruit tree technical service contract with the Baxianzhuang Brigade for the scientific trimming, thinning, insect control, and spraying of phosphorus on the leaves of over 5,000 pear trees. The yield of pears increased from 320,000 jin the previous year to 640,000 jin, the percentage of good fruit increased from the 20 to 30 percent of the past to 98 percent, and net income increased 70,000 yuan over the previous year. The Crop Institute of the city's Agricultural Sciences Academy signed a contract with the Caihe Brigade of Changping County to provide services for 200 mu of paddy rice; these included thinning the sowing area and making the seedlings healthy, transplanting shallowly and irrigating intermittently. Unit yields increased threefold, and each mu conserved over 80 jin of chemical fertilizer. At the same time, because of triple-cropping companion planting of wheat, corn, and sweet potatoes over 30 mu of arid fields, and because 10 side plots that had been left fallow and scattered were utilized to test-plant large amounts of sweet potatoes, the total yield of food grains for the entire brigade increased 410,000 jin over the previous year. Signing technical service contracts not only brings economic gain to the production units, but also promotes the development of scientific technology. The Livestock Production Research Institute of the city's Agricultural Sciences Academy used the existing facilities of the hog farm of the supply and marketing cooperative of Changping County and the Jiulan chicken farm to separately carry out heterosis of lean meat hogs as well as studies and experiments in the forced moulting of chickens and extending the egg-laying period. With close cooperation, these two farms turned deficits into profits, and scientific research work was also popularized and profoundly launched, saving a lot of investment in experiments.

On the basis of conscientiously summarizing last year's trials, this year the concerned leading agricultural departments and scientific and technical units are grasping the signing of agricultural technical service contracts more tightly. The major leading comrades of Changping County personally supervise and inspect the implementation of the contracts; at present, the projects that have been implemented lead the whole city's agricultural system. A deputy director of the city's Agricultural Sciences Academy manages this work, and cadres have been transferred to establish a scientific and technical consulting service department. The various research institutes subordinate to the Agricultural Sciences Academy have all named a deputy director to take charge of scientific and technical services. Because organization has been grasped tightly, scientific and technical services work has been launched more concretely.

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CSO: 4007/557

## BRIEFS

RULES FOR COMMUNES--The Fujian Provincial Agricultural Commission has recently set rules on reducing the heavy burden on commune members. It forbids communes and brigades to apportion expenses or work to commune members without proper authorization. Cadres at the production brigade level are to be supported by commune members and are limited to 2 - 4 while those at the production team level are limited to 1 - 2. Non-production expenses are to be further reduced. [OW081301 Fuzhou Fujian Provincial Service in Mandarin 1120 GMT 7 Sep 81]

XIANYOU COUNTY SUGAR OUTPUT--Fuzhou, 18 Sep (XINHUA)--Xianyou County, Fujian, grew 120,000 mu of sugarcanes in the 1980-81 sugarcane growing season. The average sugar output per mu of sugarcane exceeded 1,600 jin. [Beijing XINHUA Domestic Service in Chinese 0150 GMT 18 Sep 81 OW]

CSO: 4007/592

## GANSU

### BRIEFS

MINQIN COUNTY RESERVOIR--Second stage construction on the Hongyashan reservoir in Minqin County, the biggest in the desert area of Gansu Province, was completed recently. The project has been inspected by the department concerned and will soon be commissioned. Located on the north of the Hexi corridor and the lower reaches of the Shiyang River, the Hongyashan reservoir is a large low-lying reservoir in a desert area. The height of the reservoir is 14.5 meters. Its length is 8,360 meters. Its capacity is [figure indistinct] cubic meters. The area of the reservoir is 30 square kilometers. First stage construction began in 1958 and was completed in 1964. Second stage construction began in 1973. The reservoir will help relieve irrigation problems in Minqin County. [SK061054 Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 5 Sep 81]

FORESTRY CONFERENCE--The Gansu Provincial CCP Committee and the provincial people's government recently convened a forestry conference which urged that achieving measures adopted under the provincial unified plan and checking unlawful fellings should be regarded as emergency tasks in developing forests. The conference held that to guarantee forest development, we must implement the policy stating that forests can be owned by those who have planted them, grant mountainous waste land for afforestation and improve forestry responsibility systems. The conference also reviewed achievements scored in 1981 afforestation, saying that the province planted over 900,000 mu of trees in the spring and overfulfilled its annual afforestation plan. The province has made great progress in developing individually-owned forests. This spring over 180,000 mu of individually-owned forests were planted. This accounted for 20 percent of all afforested acreage. [SK071054 Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 6 Sep 81]

HUAN COUNTY ANIMAL HUSBANDRY--Lanzhou, 16 Sep (XINHUA)--Huan County in Gansu Province has become a county noted for its animal husbandry. The county has now over 600,000 sheep and over 90,000 large domestic animals. [Beijing XINHUA Domestic Service in Chinese 0154 GMT 16 Sep 81 OW]

CSO: 4007/592

## HEBEI

### RESPONSIBILITY SYSTEM, SCIENTIFIC TEHNIQUES BOOST YIELDS

Shijiazhuang HEBEI RIBAO in Chinese 10 Jul 81 p 1

[Article: "Implementing Production Responsibility System and Popularizing Scientific Management Techniques; Shijiazhuang Prefecture Defeats Drought and Achieves Bumper Harvests of Summer Grains"]

[Text] Shijiazhuang Prefecture has implemented the wheat production responsibility system and popularized scientific management techniques, defeated severe drought and low temperature damage, and realized a bumper harvest of summer grains. Of the 17 counties in the whole prefecture, 15 counties realized increased yields. According to sample surveys of the statistics department, the total yield of summer grains this year reached 2.27 billion jin, an increase of 370 million jin over the previous year, and the yield per mu was 480 jin, an increase of 73 jin over the previous year. The yield contributed 500 million jin to the state.

Ninety percent of the production teams of Shijiazhuang Prefecture established the wheatfield management responsibility system, and 15 percent of them practiced the responsibility system of joint production by the workers. Implementation of the production responsibility system mobilized the enthusiasm of the cadres and commune members to manage the wheatfields well, and also increased the quality of sowing. Generally, 5 cubic meters of fertilizer were applied per mu, the land was finely prepared, the seedlings were inspected and supplemented in time, problems of missing seedlings and broken ridges were solved, and irrigation was timely and even. After Jingxing County implemented the wheat production responsibility system, commune members thought of many ways to draw water and irrigate more, and developed existing water conservancy facilities. Excluding 40,000 mu of wheatfields that could not be irrigated, 150,000 mu produced bumper harvests, and the total yield increased by more than 10 percent over last year's.

The leadership at each level of the entire prefecture respected science and paid attention to the popularization of the experience of scientific management of wheat when guiding wheat production. Technical consultants and technical personnel were invited during each key season of production to inspect the wheatfields and to propose management techniques to adapt measures to local circumstances and to suit measures to the conditions of the seedlings, so as to strengthen management. In the sowing, 250,000 to 300,000 basic seedlings were maintained according to the different water and fertility conditions of each locality.

Eighty percent of the wheatfields were planted in time between 25 September and 15 October. Early management was strengthened, and the seedlings were stimulated to develop early, so that the number of roots, number of leaves, number of tillers, and number of spikes all increased. To increase grain weight, each locality grasped tightly the key measure of irrigation. Many ways to increase irrigation were used. Throughout the prefecture, 3.91 million mu of wheatfields were irrigated five times, and 2.84 million mu of fields were irrigated six times. With stable temperatures before the wheat matured, and with the greater difference between day and night temperatures, the weight per 1,000 grains increased 5 to 8 grams over last year.

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## HEILONGJIANG

### BRIEFS

WHEAT HARVEST--Wheat harvest is near completion in Heilongjiang Province except some areas in the northern part. According to 28 August statistics, the province harvested 24 million mu of wheat, over 80 percent of all. This year some 8.3 million mu of wheatfields were afflicted by waterlogging and floods. [Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 29 Aug 81]

BEET HARVEST--Heilongjiang Province sowed some 3.85 million mu of beets this year. Since July, many localities have been hit by rainstorms, hailstorms and insect pests, resulting in 900,000 mu of affected farmland. The province still expects a bumper beet harvest. It is estimated beet output will reach 3.2 million tons, more than last year. The provincial people's government recently issued a circular urging localities to strengthen late-stage field management. [SK022227 Harbin Heilongjiang Provincial Service in Mandarin 2200 GMT 1 Sep 81]

LIVESTOCK BREEDING--Harbin, 5 Sep (XINHUA)--Since the Heilongjiang Provincial CCP Committee and the provincial people's government decided in 1980 to lift the restriction on the number of livestock raised by commune members, household livestock breeding has been greatly developed in Heilongjiang. The number of beef cattle raised by commune members through the province has increased from 800 head in 1978 to 169,000 head at present, dairy cattle from 300 head to 25,000 head and sheep from 331,000 head to 2.04 million head. [OW081305 Beijing XINHUA Domestic Service in Chinese 1224 GMT 5 Sep 81]

BEET HARVEST--The Heilongjiang Provincial People's Government held a provincial telephone conference on the beet harvest 4 September. Zhang Wenlin, deputy secretary general of the provincial people's government, presided at the conference. Hou Jie, deputy governor of the province, spoke. The conference pointed out: The province sowed some 3.84 million mu of beets this year, 340,000 mu more than planned. It is estimated that the beet output will reach 3.2 million tons. However, waterlogging and insect pests have not been eliminated in the eastern part of the province. Therefore, efforts should be continued to overcome these calamities. It is planned that all sugar plants in the province will begin operations on 1 October. The proper time to harvest beets is from 1-20 October. [SK051024 Harbin Heilongjiang Provincial Service in Mandarin 2200 GMT 4 Sep 81 SK]

CSO: 4007/592

**HENAN**

## STATISTICS ON PURCHASE, SALE OF FOOD GRAINS

Kunming YUNNAN RIBAO in Chinese 7 Jul 81 p 4

[Article: "Fifteen Counties in Henan Contract Work for the Difference in Purchase and Sale of Food Grains; Unified Sales of State Food Grains Greatly Reduced"

[Text] Xinhuashe, Zhengzhou, 6 July--Annual statistics of food grain production in Henan Province for the [agricultural year 1980, ending [on 30] June of this year, showed that after 15 counties in Henan Province implemented contracting work for the difference in purchase and sale of food grains, unified sales of state food grains were greatly reduced, compared to the goals for contract work given to these counties by the province, and a total surplus of over 170 million jin for the year was effected.

Beginning in 1979, the Henan provincial committee of the Chinese Communist Party decided to implement contracting work for the difference between the purchase and sale of food grains in farm villages, in order to help counties in the mountainous regions and poor counties quickly change their situation. The method of contracting was to let the province determine the amount each county should turn over to the state or to sell uniformly to the state, according to the difference between procurement and uniform sales of food grains of the farm villages of each county over the past 3 years. Based on this, the county determines the amount for each commune and brigade. The goals of contracting work were set for 3 years; except for especially severe natural disasters, generally bumper harvests of deficient harvests were not changed and the food grains conserved were given to the county.

Implementation of contracting work for the difference in the purchase and sale of food grains in farm villages mobilized the productive enthusiasm of the masses. The counties were given some autonomy over food grains, and they could use part of the food grains for farmland water conservancy construction and for the development of diversification. Dengfeng County, which had been poor and backward for a long time, implemented contracting work for the difference in the purchase and sale of food grains. In the 2 years after implementation, the average food grains per capita increased 134 jin, saving the state 7.82 million jin in unified sales of grains. After Luanzhou County implemented contracting work, conscientious studies were carried out on how best to utilize food grains. It was decided to use part of the food grains to support commune and brigade enterprises and to serve as rewards for development in forestry, livestock production, and sideline production. In 2 years the entire county completed afforestation of 365,000 mu of waste mountain land; this was equivalent to the total of the area of forestation over the past 15 years. The number of large livestock increased to over 33,000 head, and live hogs, domesticated fowl, and beekeeping also developed greatly. Because of the implementation of contracting work for the difference in the purchase and sale of food grains, transportation back and forth was reduced, and a considerable amount of cost was conserved. According to statistics, the 15 counties saved 1.29 million yuan in transportation costs in 1980 and reduced the deficit by 2.07 million yuan.

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JIANGSU

## NANJING SUBURBAN FAMILIES ENGAGE IN DIVERSIFICATION

Nanjing XINHUA RIBAO in Chinese 21 Jul 81 p 1

[Article by Liu Ning [0491 1380]: "High Labor Productivity Rate, High Commercial Commodities Rate, High Economic Income; Over 4,000 Key Families and Specialized Families Engage in Diversification in Suburban Counties of Nanjing Municipality"]

[Text] The most recent survey by the Nanjing Municipal Agricultural Department reveals that over 4,100 key families and specialized families engaging in diversification are providing large amounts of supplementary foodstuffs for the city, using their own management methods.

According to incomplete statistics, these specialized families and key families, who are engaged mainly in raising domesticated animals, constitute only 1 percent of the total number of farm families, but the amount of commercial products from hogs and fowl and of eggs provided by each specialized family is on the average equivalent to the amount of commercial products provided by 8.7 commune member families. The yield of some specialized families even has approached and surpassed the yield of one production team. This year, these more than 4,100 key families and specialized families have already or will have earned an income of 4.8 million yuan, equivalent to 8.9 percent of the income from the sideline production of suburban counties throughout the city last year. A number of high-yield families has also emerged; there are 318 families with a production value of over 2,000 yuan, and 80 families with a production value of over 3,000 yuan.

Most of the specialized families and key families in the suburban counties of Nanjing Municipality have developed rapidly within the past 2 years. This is the result of overthrowing chaos and reinstating the correct. The suburban counties of Nanjing span the two banks of the Changjiang. There are mountains and water, and resources are rich. Historically, the farmers had engaged in raising domesticated animals and in planting and weaving as a tradition. But some years ago, under "leftist" ideological guidance, commune members who engaged in diversification were criticized for minor things and were punished for being more active. After the Third Plenum, the party's policy was implemented in the suburban counties, family sidelines of commune members gradually revived, and key families and specialized families emerged. This year, the Nanjing Municipal party committee and the people's government of the city established 15 measures to encourage farmers to develop diversified production, called upon the 21 specialized families in the four suburbs of Yuhua, Qixia, Pukou, and Dachang to hold discussion meetings, and summarized and popularized their experiences. Key families and specialized families in the suburban counties mushroomed.

Now, 80 percent of the collective hog farms and chicken farms in the suburban counties of Nanjing Municipality have been contracted to the workers or to the families to manage. There are over 24,000 skilled craftsmen who have signed contracts with production teams as individuals or families, contracting a total of over 70,000 mu of water surface area, unclaimed hilltops, and infertile land. The management method of the key families and specialized families generally involves only one endeavor developed in a versatile manner according to market needs to supplement market supply shortages. The products include several dozen varieties, from the raising of hogs, ducks, chickens, and fish to the cultivation of clams, tremella, mushrooms, the raising of dairy cows, and the raising of martens and planting of fruits and melons, young trees, and flowers. Because the key families and specialized families all possess a skill and pay attention to economic results, their adaptability is strong, and in providing supplementary foods for the city they have developed a greater and greater function. They have three advantages:

The first is that the labor productivity rate is high. According to surveys conducted of the 21 key families in Qixia, Pukou, and Yuhua last year, there were 44 full-time, part-time, and assistant laborers engaged in sideline production, creating a production value of 37,200 yuan. Each person created an average production value five times that of a collective sideline production worker.

The second is that the commercial commodity percentage is high. Last year, the 16 key families engaged in raising animals supplied to the market an average of 5.5 fat hogs per family. Families raising domesticated fowl provided an average of 93.5 birds per family; familes producing eggs provided an average of 85 jin per family. They all surpassed the average amount sold to the state by each farm family of the whole city fourfold, 23 times, and 7.4 times, respectively. Zhu Wencai [2612 2429 2088], of the Nanyu fourth team of Jiangdong Commune in Yuhua Ward, last year contracted for the raising of 50 hogs of the collective and also raised two sows himself and bred his own pigs. He sold 32 fat pigs and 15 young pigs to the state. This year, he sold 10 fat pigs and kept over 40 pigs in the pen, and within a year he can again sell 20 pigs.

The third is that economic income is high. A survey of the 10 key families conducted by Daqiao Commune in Jiangpu County last year showed that 21 people were participating in collective labor and earning an income of 6,172 yuan. an average of 123 yuan per person, while the 2 full-time laborers, 3 assistant laborers, and 21 part-time laborers who were engaged in specialized labor created a net income of 13,107 yuan, for an average income of 504 yuan per person.

In addition, the development of specialized families and key families to engage in diversified production benefits the popularization of science and technology and opens up new employment opportunities for the surplus labor force in farm villages.
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## BRIEFS

XUZHOU AUTUMN SOWING--All counties in Jiangsu's Xuzhou Prefecture go all out to prepare for autumn sowing. As of present, they have prepared 22 million cubic meters of manure and repaired 36,000 walking tractors. [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 18 Sep 81 OW]

CSO: 4007/592

## BRIEFS

CIRCULAR ON DROUGHT--The Jiangxi Provincial People's Government recently issued an emergency circular on combating drought and exterminating insects. In the circular the government asked all local governments to make all-out efforts to fight the drought and control the insects in order to insure a bumper harvest. There has been little rainfall in Jiangxi since early August. As a result, most of the farmland is suffering from lack of water. At the same time, there appears to be an outbreak of serious plant diseases and insect pests, which are threatening the growth of late rice and other crops. [OW151217 Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 14 Sep 81 OW]

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## BRIEFS

PADDY RICE CROP--Liaoning Province expects to reap more than 5 billion jin of paddy rice this year, a record high. This figure will be 300 million jin more than the 1980 figure. [SK181050 Shenyang Liaoning Provincial Service in Mandarin 1100 GMT 17 Sep 81 SK]

POSTFLOOD REHABILITATION--Shenyang, 4 Sep (XINHUA)--People in six counties in Dalian and Yingkou Prefectures in southern Liaoning, which were inundated in late July following the heaviest rains in a century, have quickly resumed production by relying on their own efforts. With assistance from local PLA units, damaged power transmission lines and telephone cables have been reinstalled, interrupted railway and highway communications have resumed, hospitals and schools have reopened and victimized people have been housed in simple, newly built shelters. Today flood water has also been drained from 800,000 mu of waterlogged cropland and 50,000 mu of crops and 200,000 fruit trees have been replanted. [Beijing XINHUA Domestic Service in Chinese 1302 GMT 4 Sep 81]

CSO: 4007/579

## BRIEFS

CATTLE BREEDING COMMITTEE--Hohhot, 13 Sep (XINHUA)--A committee for breeding Swiss Simmental cattle in China has been established in Tongliao, according to the Animal Husbandry Department of the Inner Mongolia Autonomous Region. This is one of the world's fine strains. The committee will organize nation-wide breeding of pedigree Simmentals and carry out scientific research and technical exchanges in improving Chinese cattle species by crossbreeding. China began raising Simmentals in the 19th century. It imported a herd of the cattle in recent years. Now the country has 3,000 pedigree Simmentals, most of them in Inner Mongolia. [Text] [Beijing XINHUA in English 0145 GMT 13 Sep 81 OW]

GRAIN STORAGE--According to statistics compiled at the end of August, Bayannur and Ulanqab leagues and Hohhot and Baotou municipalities, Nei Monggol, put some 31 million jin of public grain in storage, an increase of 68.3 percent over the corresponding 1980 period. [SK171157 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 16 Sep 81 SK]

DIVERSIFIED ECONOMY--Bayannur League, Nei Monggol, has achieved remarkable success in developing diversified economy. In 1980 the total income from forestry, animal husbandry, sideline production and fishery accounted for 36.5 percent of the total agricultural output value. Compared with 1978, the 1980 beet and sunflower output increased by 1.6-fold and 17.6-fold respectively. Per capita income from the collective distribution was up to or over 100 yuan in one-third of banners and counties and in 36.5 percent of communes. This year the league increased beet- and sunflower-growing areas by 1 million mu respectively over that in 1980. Therefore, still greater success is expected. [SK111000 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 10 Sep 81]

CSO: 4007/579

# ACHIEVEMENTS IN AGRICULTURAL SCIENCE, TECHNOLOGY OUTLINED

Xian SHAANXI RIBAO in Chinese 10 Jul 81 p 1

[Article by Gao Boping [7559 0590 1627] of the Scientific Education Department of the Provincial Agricultural Burea: "Since the Founding of the Nation, Agricultural Science and Technology in Our Province Have Realized Visible Achievements; of a Total of Over 400 Scientific Research Results, Over 200 Have Already Been Widely Used in Production"]

[Text] Over the past more than 30 years since the founding of the nation, our province's agricultural science and technology have realized rich achievements under the leadership of the party and the people's government and they have served to promote the development of agricultural science and production in the entire province.

According to statistics, over 30 years a total of over 400 scientific research results have been achieved, and over 200 of them have already been widely used in production. Professor Zhao Hongzhang [6392 3163 3864] of the Northwest Agricultural Academy bred the bima No 1 and fengchan No 3 superior wheat varieties, which have been popularized over more than 14,000 mu throughout the nation. The results of increased yields of the wheat varieties "shaan zao No 1," bred by the Provincial Food Grain Crop Research Institute, "xiao yan No 6," bred by the Northwest Plant Research Institute, "xi yu No 7," bred by the Northwest Water and Soil Preservation Research Institute, and "shaan he No 6," bred by the Heyang County Agricultural Science Institute have all been good. Generally, each mu produces an increased yield of 20 to 30 percent. The hybrid paddy rice that was introduced into the province for popularization in 1977 has expanded to 670,000 mu in 1980 and has realized a net gain of 270 million jin in rice grains. The superior varieties of "shaan mian No 4," "shaan 401," and "shaan 1155" cotton, which are highly resistant to fusarium wilt of cotton, were bred by the Provincial Cotton Research Institute; they have been popularized over more than 1.6 million mu within the province and outside the province. The superior varieties of rape "shaan you 110" and "shaan you 741," which are resistant to cold in our nation's northern regions and were bred by the Provincial Special Crop Research Institute, have created record bumper harvests of 200 to 300 jin per mu over large areas. Our province's plant protection workers joined with the seed and popularization departments and developed and popularized a comprehensive method of prevention and control of heat smut of corn, based on the disease-resistant varieties, thus reducing the loss of food grains by over 200 million jin. The Provincial Plant Protection Institute and the Plant Protection Department of the Northwest Agricultural Science Academy worked in cooperation to popularize prevention and control measures based on antirust varieties which have served visibly to control damage by wheat rust disease. Through many years of experimentation, soil fertilizer workers have basically solved the technical problems of cultivating sweet clover and vetch as green manure and have come to understand the application techniques of phosphorous fertilizers, overturning the historical conclusion that loess is not deficient in phosphorus. They completed a province-wide general soil survey and general surveys of fertility and water, and scored visible achievements in the improving low-yielding soils. In vegetables, they summarized a set of techniques for cultivating high yields of fresh hot peppers and artificial drying techniques. The yield per mu increased from over 100 jin to 400-500 jin, while the drying rate increased from 20 percent to 30 percent. Superior varieties of cucumbers, carrots, cabbage, western red persimmon and new varieties of applies, peaches, and watermelon were bred. In livestock production and veterinary medicine, a high-milk-yielding goat was bred, and over 800,000 head have been popularized throughout the nation. A new species colony of fine wool sheep was bred, and visible achievements have been made in the research of breeding Guanzhong draught horses and in early maturity and beef characteristics of Qinzhou cows. Research in the technique of freezing the semen of the Guangzhong donkey and the southern Shaanxi water buffalo was successful. The Contagious diseases rinderpest, contagious pleuropneumonia of cattle, and blackleg were eradicated. The causes of blindness in sheep, "roof rotting" disease of draft cattle, diarrhea in donkeys, and black spot disease due to poisoning by the green lemon tree leaves and sweet potato black spot disease, which have caused the death of large numbers of draft cattle in southern Shaanxi, have been discovered, a method of prevention and control has been found, and the damage has been controlled.

These achievements have served greatly to stimulate the development of our province's agricultural science and production. Under the direction of the famous entomologist Professor Zhou Yao [0719 1031], our nation revealed for the first time the habits and the patterns of occurrence of wheat midge and effectively guided prevention and control work. The study of the "golden winged noctuidae" discovered 23 new species and 1 new subspecies and new records of 23 species. Cotton specialist Yu Qibao [0205 0796 5508], pathologist Shen Qiyi [2088 0366 0001], and Professor Chou Yuan [0092 0337] proposed organizing a national joint evaluation of the physiological types of fusarium wilt of cotton and clarified the regional distribution of the physiological types of fusarium wilt of cotton in our nation and the manifestations of resistance and infection of the varieties. They broke through the long-held belief of foreign nations that the whole world has only "four physiological forms." The Northwest Agricultural Academy studied the ancient agricultural remains in our nation and compiled and published over 20 special works on paleoagriculture; the explanatory notes to the "fan sheng zhi shu," "qi min qao shu," and "mong zheng quan shu" have exerted a great influence in our nation and have been noted by foreign specialists and scholars.

The realization of a large number of scientific research achievements have been the result of the attention paid to agricultural science and technology by the party and government. Before liberation, our province had only three agricultural experimental stations--at Jingyang, Dazhi, and Nanzheng--and 20-plus technicians. The work was very difficult. Within the short period of just over 30 years, under the correct leadership of the party, agricultural science and technology have developed rapidly. At present, an agricultural science research body of the entire province has been preliminarily formed. There are more than 1,600 provincial-level agricultural science research personnel, teaching personnel, and local and municipal scientific and technical personnel, and over 700 research personnel above the assistant researcher level. The province has established 11 specialized research institutes and 6 experimental farms. Ten localities and cities have established agricultural science research institutes. In recent years, each level of the party organization has grasped the implementation of the policy concerning intellectuals, the evaluation of technical duties, and the policy of rewards for scientific research achievements. All this has greatly mobilized the enthusiasm of scientific and technical personnel and forcefully stimulated the development of agricultural science and technology.

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CSO: 4007/550

# STEPS TAKEN TO COMBAT FLOODING IN HANZHONG PREFECTURE

Xian SHAANXI RIBAO in Chinese 15 Jul 81 p 1

[Article: Hanzhong Prefecture Suffers Flood Damage; Cadres and Masses Exert All-Out Efforts To Prevent Flooding and Save Those in Danger"]

[Text] On the afternoon of 13 July, Mianxian, Lueyang, Ningqiang, Nanzheng, Chenggu, Liuba, and Yanxian [counties] and a portion of Hanzhong city in Hanzhong Prefecture were damaged by severe flooding, and great loss of life and property has been incurred. After the disaster, cadres at each level went immediately to the disaster area to organize the masses to resist the flooding and save those in danger.

Since the beginning of July, rain has fallen continuously in Hanzhong Prefecture, on the 13th and the 14th, heavy rain and rainstorms occurred continuously. During the 2 days, rainfall in the five counties of Mianxian, Lueyang, Ningqiang, Nanzheng, and Liuba totaled over 100 millimeters, reaching a high of 200 millimeters. Riverwater in Hanjiang and its tributaries rose dramatically, ponds were full and reservoirs overflowed, and floodwater rushed into the Hanjiang, causing the Hanjiang dike to burst in several places. According to preliminary statistics from Mianxian, Hanzhong, Nanzheng, and Chenggu counties, 18 communes, 47 brigades, and more than 60,000 people were affected. In many villages, not a house was left standing. Most of the houses had collapsed, and people and animals were injured or killed. The 200,000 mu of paddy ricefields along the Hanjiang were submerged. The Hanzhong prefectural party committee and the administrative office of the prefecture issued an emergency notice to each county on the 13th. Two groups of cadres were transferred on one morning of the 14th, and at noon, led by seven deputy secretaries and deputy commissioners, they went in separate groups to Mianxian, Chenggu, Nanzheng, and Hanzhong counties and [Hanzhong] city to help prevent flooding and save those in danger. Flood prevention and emergency measures are being carried out, and most of the people have been evacuated safely.

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## BRIEFS

**HARVESTING PROGRESS**--Hanzhong, 13 Sep (XINHUA)--To minimize the losses caused by flood, people in the flood-stricken Hanzhong Prefecture in Shaanxi have been rush reaping the fall crops and replanting the summer crops. As of early September, the prefecture had reaped 60,000 mu of rice and 250,000 mu of corn, cultivated 30,000 mu of rapeseed and replanted 50,000 mu of vegetables. Because of the flood, over 2.7 million mu of the prefecture's 3.89 million mu of crops have been either damaged or totally washed away. It is estimated that this year's grain output in the prefecture will be 40 percent lower than the planned target. [Beijing XINHUA Domestic Service in Chinese 1707 GMT 13 Sep 81]

CSO: 4007/579

## PLA UNITS HELP COMBAT DROUGHT, HARVEST BUMPER WHEAT CROP

Jinan DAZHONG RIBAO in Chinese 24 Jul 81 p 1

[Article: "PLA Units Stationed in Our Province Support Agricultural Production in a Big Way, Contributing Efforts To Realize a Bumper Harvest in Year of Severe Drought"]

[Text] The PLA units stationed in Shandong have developed the glorious tradition of supporting the government and loving the people, and have given material and financial assistance to support our province's agricultural production. According to statistics in the first half of this year, PLA units stationed at various localities throughout the province supported agriculture to the extent of over 698,000 working days, providing 19,000 tons of various fertilizers, helping to plant 1.13 million trees, repairing 61,000 meters of canals, and sinking 143 wells.

PLA units stationed in our province grasped the support of agricultural production as an important task in supporting the government and loving the people. During the key periods of each spring planting and sowing, "the three summer," and the "three autumn" busy farming seasons, and in drought and flood resistance and planting and afforestation, large numbers of battle commanders were assigned to provide support. This spring, our province encountered severe drought such as had not been seen for many years, causing great difficulties for seizing bumper harvests of wheat and timely spring sowing. The commanding officer of the Jinan troops issued an emergency notice instructing subordinate troops to take immediate action to give massive support to the farm villages where they were stationed in order to resist drought, save the wheat, and preserve spring sowing. Troops stationed in each locality quickly assigned over 10,000 battle commanders to the frontline of drought resistance and joined the masses of commune members in digging ditches and building canals, sinking wells and building stations (water-raising stations), digging mountain springs, and cutting off underflow, and used many methods to expand the area of irrigation. A certain unit stationed in Jiaoxian dispatched 42 companies of over 2,400 soldiers to help commune brigades repair over 2,500 meters of canals, sink a large well, and increase the irrigated area by over 3,000 mu. They hauled water and carried out dibble-planting. Over 1,700 mu of wheatfields were irrigated. A certain unit stationed in Wendeng County helped the local farm village to resist drought in a big way, and at the same time sent a group of battle commanders to help the Kunlunshan forest farm plant

6,700 mu of trees for forestation. To thank the PLA for the unselfish help, the forest farm named the forest planted by the POA "8-1 forest" and established a plaque in commemoration.

In helping the localities to resist drought, many troops supplied the people with what they needed, assigned automobiles, water pumps, and electric motors which the troops had been using to the localities for use in drought resistance, and dispatched farm machinery repair teams to go deep into the fields to inspect and repair various types of farm machinery totaling over 12,900 units (pieces).

Through the broad united struggle of the people and the military, our province seized a bumper harvest of wheat in this year of severe drought, the growth of the various spring and summer sown crops is good, and bumper harvests are hopeful.

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CSO: 4007/557

SHANXI

# RESPONSIBILITY SYSTEMS FOR STATE FARMS, RECLAMATION ENTERPRISES

## Deficit Turn Into Profits

Taiyuan SHANXI RIBAO in Chinese 5 Jul 81 p 3

[Article by Yu Xizhi [0060 6932 4363]: "Our Province's State-Run Agricultural Reclamation Enterprises Have Established Many Forms of the Production Responsibility System; Reversing the Deficits of Many Years, Last Year a Profit of Over 1.3 Million Yuan Was Realized"]

[Text] The 34 state agricultural reclamation enterprises in Shanxi Province have all established different forms of the production responsibility system during the past 2 years, and they have realized visible economic results.

State farms mainly engage in planting, raising livestock, and industrial and sideline production. This is the same as the production teams of the people's communes in farm villages. But they belong to the system of ownership by the whole people; they implement a fixed eight-level wage system, which is different from the people's communes in farm villages. Therefore, a production responsibility system must be established in line with this characteristic. After the Third Plenum, the broad numbers of cadres and workers on state farms liberated their ideology, practiced daringly, and established various forms of the production responsibility system which have already showed their power. After removing the deficit in 1979 for the first time, last year there was a net profit of 1,327,000 yuan, an increase of tenfold over the previous year. Except for the reduced yield of food grains because of disasters, the other economic indicators all fulfilled their plans with surpluses, and some even reached the best levels in history.

At present, our province's agricultural reclamation enterprises practice the following six forms of the production responsibility system:

1. Livestock farms raising dairy cows implement the system of having a fixed number of cows per person and a fixed yield (of milk) based on the number of cows, supplying feed according to yield, and giving rewards for surplus yields. Last year, when the Hongqi livestock farm in Yanbei Prefecture implemented this method, the yield of milk increased by more than 6.4 million jin over the previous year, and increased income of more than 1.7 million yuan was realized.

2. Farming and livestock farms engaged mainly in planting implement the responsibility system of several quotas and one reward, fixed investment, fixed quotas for yields, fixed production value, fixed profits, and fixed investment of work. After the Taiyuan agricultural and livestock farm implemented this method, the area of cultivated land for which each laborer was responsible increased from the original 35 mu to 60 mu, the number of people in the farming teams was reduced from 280 to 170 persons, the remaining labor force engaged in diversification, and the annual profit was 110,000 yuan.

3. Implementation of responsibility wages, or floating wages. Ordinarily, 90 percent of personal wages are paid each month to the leadership and workers of the farm, while the remaining portion, called responsibility (floating) wages, is paid at yearend according to the degree of completion of personal production tasks. When the Linfen fruit tree farm implemented this method last year, a large bumper harvest resulted. Total yield reached over 7 million jin, and the profit for the year was 530,000 yuan.

4. Contracting single jobs to specialists and bearing profit or loss proportionally according to surplus or reduction in production. This means that certain productive jobs on the farm are contracted to individuals, and surplus or reduced yields are proportionally borne according to contract.

5. Contracting large jobs. This form is used mainly in accounting for single units of automobiles and tractors or contracting work for single units of machinery. Sometimes it is also used in industrial and sideline production counted by single units.

6. Technical responsibility system. This form is based on product percentage, using a certain technical standard as the criterion for reward or punishment. Its results are more visible in technically intensive production projects.

## 'A Welcome Change'

Taiyuan SHANXI RIBAO in Chinese 5 Jul 81 p 3

[Commentary: "Welcome Change in Agricultural Reclamation Enterprises"]

[Text] Implementation of the production responsibility system in farm villages has solved the problems of clothing and food for commune members in poor and backward regions, and the productive rate has increased. Now, there is news that our province's state agricultural reclamation enterprises have established the production responsibility system and have changed deficits to profits, and that visible results have been realized. This is encouraging.

Although workers of state agricultural reclamation enterprises work like farmers year after year and month after month, raising cattle and milking the cows, when it comes to wages, they would eat "from the common pot." Therefore, the labor productivity rate has not been high, production has developed slowly, and there have been serious deficits. How can this situation be changed? Practice proves that establishing the joint production responsibility system, such as has been done in the farm villages, is the best way to stimulate the development of productivity.

Last year, the agricultural reclamation enterprises of the entire province implemented different forms of the production responsibility system, and after it was gradually popularized from the localities to large areas, profits increased drastically from 120,000 yuan in the previous year to 1.32 million yuan--a tenfold increase in 1 year. Of course, compared to the farm villages, agricultural reclamation enterprises have their own characteristics, and implementation of the production responsibility system should start from the actual situation. The production responsibility system now needs to be further strengthened and perfected. Leaders of the departments concerned must continue to liberate thought, improve understanding, and strengthen investigation and study so as to join the authority, duties, and benefits of the workers of the agricultural reclamation departments tightly together in order to manage the agricultural reclamation enterprises even better and to make greater contributions to the four modernizations.

9296
CSO: 4007/557

## ZHEJIANG

### BRIEFS

ANJI COUNTY POULTRY--The number of domestic fowls raised by commune members in Anji County, Zhejiang Province, has increased to about 1.4 million, according to a recent investigation by the county's foodstuff department. Each household has an average of more than 20 fowls, an increase of 20 percent over that of last year. [OW091607 Hangzhou Zhejiang Provincial Service in Mandarin 1040 GMT 7 Sep 81]

CSO: 4007/579

## POPULATION, INDUSTRIAL GROWTH REPORTED REDUCING ARABLE LAND

HK080220 Hong Kong SOUTH CHINA MORNING POST in English 8 Sep 81 p 6

[Article by Christopher Fleming]

[Text] Beijing, Sept 7--The unrelenting pressure of population growth and industrial expansion is taking a heavy toll on China's limited arable land.

However, the remedial program of waterland reclamation is also causing irreparable damage to the country's ecological system.

Recently, China's planners have been alarmed by the result of one survey which shows that the country's cultivated land area has not increased but in fact decreased over a 20-year period. In the same period, population soared from 640 million to 940 million.

In 1957, the country's cultivated land was about 107 million hectares. But in 1977, it had shrunk to 99 million hectares. It was tantamount to the disappearance of Sichuan, Guangdong and Guangxi provinces from China's agricultural map.

Actually, 28.68 million hectares of agricultural land were lost to city and industrial construction in that period, which means that the cultivated land of a province like Fu Jian vanished every year. But the reclamation of about 20 million hectares of deserts and wastelands substantially reduced the overall arable land loss.

At present, China is still faced with the mind-bogging task of safeguarding the food supply for its one billion population in the face of the continued shrinking of the country's arable land due to urban growth.

China is obliged to feed 22.7 percent of the world's population from its seven percent share of the world's total arable land area. The present annual grain production per capita of 316 kg is only slightly higher than the figure 25 years ago.

A massive reclamation program seems to be one important way out. Based on the survey of conditions in the 50's. There are still around 14 million hectares of wasteland available for reclamation. But this program would entail huge investments--which capital-deficient China can ill afford.

And more significantly, there are forbidding ecological laws which China's economic planners must contend with. Already, nature is returning in kind the massive damage inflicted on it by China's past reclamation projects.

This aspect of the problem is the focus of ongoing discussion among China's economic planners. Based on the views and facts revealed recently in economic journals. There is in fact a developing recognition that the large-scale reclamation projects, particularly in the northwestern border regions, have by and large neglected to consider the possible adverse impact on the country's ecosystem.

China's deserts and wastelands are concentrated in the six frontier provinces of Xinjiang, Qinghai, Ningxia, Inner Mongolia, Gansu and Xizang.

The reclamation projects conducted in these areas in the past three decades have indeed created new bases for agricultural and animal husbandry production. However, the massive tinkering with nature has also meant large-scale destruction of vegetation, widespread loss of soil fertility and secondary salinization of large tracts of land, expansion of deserts and disintegration of ecological balance.

Blind reclamation has meant more losses than gains. With large investments, Qitai County in Xinjiang, for example, has reclaimed more than 67,000 hectares from the Gobi Desert since 1949.

At present, however, only around 10,000 hectares remain under cultivation, the rest is again unfit for planting as the meagre fertility of the soil had been used up.

In Gansu, the Huahai state farm destroyed 1,500 hectares of grassland to expand its farming area. Result: Grain harvest was even less than 10 percent of the amount of seeds sown. In a 2-year period, its farmsite had to be transferred several times, using up more scarce capital funds and devastating more vegetation in the process.

The whole Qinghai Province has reclaimed 380,000 hectares of wasteland since 1949, but due to the rapid deterioration of the soil, 278,000 hectares are now useless for farming purposes.

In Xinjiang, more than 200 state farms were established on former wastelands and 40 new oases were created in addition to the old ones. This feat was much publicized before.

But actually, due to the leakage of many irrigation ditches, deficient sewage system and unrestrained pumping of water, the underground water level has steadily ascended resulting in the salinization of large tracts of land.

In Xinjiang, salinization has spread to 867,000 hectares, which is one-third of the total irrigated land area.

Reclamation has also meant the dispoliation of large forest areas and extinction of valuable species of trees. This in turn is causing unfavorable climatic changes. The Tarim basin originally had a poplar forest area of 528,000 hectares, but now only 230,000 hectares remain.

In 1949, Xinjiang had four million hectares of red willow forests, but half of that has already been cut down.

At the same time, there has been a marked reduction of water volumes in many rivers, the absolute highest temperatures have gone up while the absolute lowest temperatures have gone down, gales and rainstorms occur more frequently and springtime drought is more severe.

Profound ecological changes have also been wrought by the large-scale irrigation projects in reclaimed areas. In Xinjiang, 466 dams have been constructed since 1949, but as most of these are on the plains, salinization has occured on large tracts of surrounding farmland.

The construction of the Bahu Dam in Qitai County in 1961 has caused the steady rise of the water table. As a result, 1.4 million hectares of surrounding areas have been transformed into alkaline land.

The Manyinghu production brigade around the dam which used to supply grain to the state with its annual harvest of 450 tons, saw its grain output drop to 90 tons after the dam construction; its people now survive on the relief grain supplied by the state.

The construction of the Daxihaizi dam along the Tarim river channel resulted in the drying up of the whole Lop Nor Lake--3,006 sq km, in size. But the original aim of boosting agricultural production in the upstream region through increased irrigation has hardly materialized. Soil salinity due to higher water table has meant poor crop yield.

On the other hand the lower water table in downstream areas has spelt the ruin of large tracts of forests.

As a consequence of dam construction, the surface area of Fuhai Lake in northern Xinjiang has shrunk by 8,000 hectares, while the water table is sinking by 0.317 meters every year. For the same reason, the fresh-water Bositeng Lake is now slowly turning into a salt-water lake.

Another ironic result of the reclamation projects is the steady frightful expansion of deserts. Due to the devastation of vast expanses of vegetation, strong winds are becoming more frequent and sand dunes move more easily blocking roads and threatening whole villages.

The great Taklamakan desert is now moving southward at the rate of 1.3 metres every year. Another study has revealed that over the past three decades, 14,000 sq km of land have become new deserts in the Tarim basin area. In 1959, Qinghai Province only had 5.97 million hectares of deserts; now it has 7.9 million hectares, which means a growth of more than 85,000 hectares every year.

All the foregoing facts do not yet represent the whole story. Many examples remain to be cited, and further studies are going on. It's clear, however, that China's ecologists are finally having their say in long-range economic planning.

Expectedly, China's future reclamation program will be more closely guided by ecological science. Its pace and scale will most likely be no longer the same as before.

How China, with its shrinking agricultural land area, can guarantee the food supply of a large and ever-growing population becomes then a complicated question all the more.

CSO: 4020/246

# Agricultural Machinery

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ORG: WANG Wenlong of Luoyang Tractor Research Institute; WANG Xiubin of Wuhan Institute of Technology; ZHOU of Hubei Machinery Research Institute; XIAO of Zhejiang Agricultural University

TITLE: "The Morphology Theory and Practice of Paddy Field Power Unit and Its Development"

SOURCE: Beijing NONGYE JIXIE XUEBAO [TRANSACTIONS OF THE CHINESE SOCIETY OF AGRICULTURAL MACHINERY] in Chinese No 2, 1981 pp 1-10

TEXT OF ENGLISH ABSTRACT: What theory should be used to guide the development of the paddy field power unit (PFPU) is an important question which must be resolved if we are going to realize agricultural mechanization in paddy fields.

This paper shows that it is necessary to break away from conventional tractor theory and develop a new one based on the fact that natural, agricultural and socio-economic conditions introduce problems to Chinese farm mechanization. The theory of the "tractor morphology" written by the authors in 1973 is introduced simply. According to this theory the morphological requirements of the PFPU and the "floating-semifloating" working principle (simply called the "buoying

[Continuation of NONGYE JIXIE XUEBAO No 2, 1981 pp 1-10]

principle") are also presented. We have carried out a theoretical analysis for the results obtained from the performance and application tests of PFPU's. We have found the main reasons for the boat-type tractor based on the "buoying principle" having a higher plowing capacity, twice as much as that of the conventional paddy field tractor of the same power. At the end of the paper the choice of the PFPU models is discussed. It must be in accordance with both natural and economic considerations.

Through a preliminary statistical analysis of the effects of present boat-type tractors, we have concluded that the boat-type tractor, the boat-type combine and the combinatory tractor with floating boat, which are all based on the "buoying principle," may be the main developing direction of the PFPU in the future.

AUTHOR: SHEN Kerun [3088 0344 3387]

ORG: Chinese Academy of Agricultural Mechanization Sciences

TITLE: "Problems and Analyses of Design of Inner Cam Controlling Mechanism of Planting Crank for Rice Transplanter"

SOURCE: Beijing NONGYE JIXIE XUEBAO [TRANSACTIONS OF THE CHINESE SOCIETY OF AGRICULTURAL MACHINERY] in Chinese No 2, 1981 pp 11-27

TEXT OF ENGLISH ABSTRACT: The inner cam controlling mechanism of the planting crank is a type of mechanism generally used on the current engine-driven rice transplanter in China.

This paper puts forward views and design methods for the following relevant problems, such as the creation of an inner cam controlling mechanism of the planting crank, methods for determining the basic parameters according to agrotechnical demands, the basis of gripper path analysis, the function of velocity coefficient K, as well as a definition of the position of the cam controlling condition and the instantaneous angular velocity of a gripper bar, etc.

The contents of the preliminary summary mentioned above are for reference only.

AUTHOR: LIN Lin [2651 7207]
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ORG: Both of Fuzhou University

TITLE: "On the Best Fitting of the Plow Surface Shape"

SOURCE: Beijing NONGYE JIXIE XUEBAO [TRANSACTIONS OF THE CHINESE SOCIETY OF AGRICULTURAL MACHINERY] in Chinese No 2, 1981 pp 28-35

TEXT OF ENGLISH ABSTRACT: This paper introduces a new method of generating the plow surface, the model curve description, and a behavior function of the plow surface. The best fitting of the plow surface shape can be done by solving a nonlinear programming equation which contains N variables and M inequalities. Using this, we have developed a mathematical model describing the plow surface shape for the best fitting. This method has been successfully used in the mathematical description of various plow bottom surfaces of the South China series of paddy field plows.

AUTHOR: WANG Peinan [3769 1014 0589]
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ORG: Both of the Southwest Reactor Research and Design Institute

TITLE: "A Practical Method of Computer-aided Design of Centrifugal Pump Impeller Based on the One-dimensional Flow Theory"

SOURCE: Beijing NONGYE JIXIE XUEBAO [TRANSACTIONS OF THE CHINESE SOCIETY OF AGRICULTURAL MACHINERY] in Chinese No 2, 1981 pp 36-42

TEXT OF ENGLISH ABSTRACT: A simple mathematical treatment method is given in this article which enables the traditional centrifugal pump impeller, the design of which is based on the one-dimensional flow theory, to get a series of analytical expressions and some algorithmic properties. Thus the common work that used to be done manually can be transferred to a computer and can be performed by computer-aided design.

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AUTHOR: PANG Shenghai [1690 5116 3189]

ORG: Northwest College of Agriculture

TITLE: "Mathematical Analysis in the Design of the Flywheel-type Cutterhead"

SOURCE: Beijing NONGYE JIXIE XUEBAO [TRANSACTIONS OF THE CHINESE SOCIETY OF AGRICULTURAL MACHINERY] in Chinese No 2, 1981 pp 43-51

TEXT OF ENGLISH ABSTRACT: The flywheel-type cutterhead is widely used in the ensilage harvester and crop chopper, the design of which is usually shown by illustration. In this article, a mathematical analysis design method is given. In this way, the choice of geometric factors of the cutterhead will be made more reasonably and the working properties of the cutterhead will be improved. In the paper, crop choppers ZC-6 and 9ZF-1.0 are taken as examples, and a specific method for improving the cutterhead design is given. According to the calculations, the power consumption can be decreased by 12~33 percent.

AUTHOR: ZHANG Boping [1728 3134 1456]

ORG: Beijing Research Institute of Agricultural Mechanization, Ministry of Agricultural Machinery

TITLE: "Experiment and Research on Grinder Plate Type Seed Metering Mechanism"

SOURCE: Beijing NONGYE JIXIE XUEBAO [TRANSACTIONS OF THE CHINESE SOCIETY OF AGRICULTURAL MACHINERY] in Chinese No 2, 1981 pp 52-61

TEXT OF ENGLISH ABSTRACT: The grinder plate type seed metering device is a new type of feeding device used for planting wheat, sorghum, rice, peas, beans, rape, millet and flaxseed with a better uniformity of seed distribution. The seed hopper used for the grinder plate type metering device can also be used for the edge-drop plate seed metering device for hill-drop or single feed of corn and the reverse-feed dropping mechanism for drilling undelinted cottonseed. This paper describes the structural parameters, technology of the metering process and technical characteristics of the grinder plate type seed metering device.

AUTHOR: CHENG Huaishi [4453 2037 6108]
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ORG: All of the Luoyang Tractor Research Institute

TITLE: "Telemetry of Piston Temperature in a Diesel Engine"

SOURCE: Beijing NONGYE JIXIE XUEBAO [TRANSACTIONS OF THE CHINESE SOCIETY OF AGRICULTURAL MACHINERY] in Chinese No 2, 1981 pp 62-68

TEXT OF ENGLISH ABSTRACT: Telemetry of piston temperature is used for the study of piston heat load and is an important implement is finding the way to improve a diesel piston. Through progress in our electronic industries we are able to proceed in this field of research. In this article the fundamentals, instrumentation and operation of the piston temperature telemetry are presented.

AUTHOR: LI Fan'ai [2621 0416 1947]

ORG: Wuhan Institute of Technology

TITLE: "An Investigation of a Reel with Retracting Finger on Vertical Table"

SOURCE: Beijing NONGYE JIXIE XUEBAO [TRANSACTIONS OF THE CHINESE SOCIETY OF AGRICULTURAL MACHINERY] in Chinese No 2, 1981 pp 69-77

TEXT OF ENGLISH ABSTRACT: A reel with retracting finger is being used as a conveying part of crops on the vertical table. Past designs had been based on experience. In this paper, the typical motion of the finger has been proposed. The changing regularity, dynamic character and working process of the finger have been studied based on derivation of the computation formulas of speed and length of finger extension. The theory and method for selecting speed, work section, and conveying ability, in addition to the choice of primary construction parameters, have been presented.

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AUTHOR: JU Xiqing [7263 6932 1987]

ORG: Shaanxi Research Institute of Agricultural Machinery

TITLE: "Analysis of Seed Spout of John Deere 7000 Precision Seeder"

SOURCE: Beijing NONGYE JIXIE XUEBAO [TRANSACTIONS OF THE CHINESE SOCIETY OF AGRICULTURAL MACHINERY] in Chinese No 2, 1981 pp 78-82

TEXT OF ENGLISH ABSTRACT: In this paper, based on the data from actual measurement the equation of seed spout curve is obtained. The formula for seed moving velocity in the seed spout is also derived. Then the velocity $V_K$ at the discharge end of the seed spout and the horizontal component $V_{KS}$ of $V_K$ are calculated. The optimum sowing speed of this type of seed spout has been verified, thus providing a reference for seed spout design.

9717
CSO: 4009/405

## Agricultural Science, Technology

AUTHOR: None

ORG: Zhuge Liang Room, Junan Agrotechnical Station, Shangdong Province

TITLE: "Dry-Field Raising of Vigorous Rice Seedlings"

SOURCE: Beijing NONGYE KEJU TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 3, 1981 pp 1-2

ABSTRACT: Dry-field raising of rice seedlings was begun in Junan County, Shandong in 1965, and for the last 11 years more than 90 percent of all rice seedlings have been raised by this method. Although the seedlings produced in this way are shorter, there is much better root development, which makes for better growth after transplanting. The method saves large quantities of water, which is important in an area where soil moisture evaporation can exceed rainfall. The seedlings are easy to transplant if the soil is moistened around them, and the method is better suited to intercropping. The ground must be carefully prepared and specific fertilizer recommendations followed. Sowing is fairly sparse, ranging from 130 jin per mu down to 60 or 80 jin per mu.

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AUTHOR: XU Buxiu [6079 6253 4423]

ORG: Wuxi County Agricultural Bureau, Jiangsu

TITLE: "Rice Seedling Propagation by Strip Sowing in Holding Beds"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 3, 1981 pp 2-3

ABSTRACT: For the past 5 years, Wuxi Province has been disseminating a propagation method which improves land use efficiency and gives good yields. In this method, rice seedlings are sown at three times the normal density, and when the young seedlings have sprouted and have produced three leaves they are shoveled up and transplanted into three times the area in holding beds by cutting the mass of seedlings into strips 1 cun or less wide and planting these strips in rows with a spacing of 4-5 cun. In 1980 the method was used on 305,000 mu, or 59.6 percent of the early rice area. The method increases per-unit yield by about 10 percent, accelerated maturity, gives larger quantities of green manure, and decreases labor and expenses. It has been successfully used with seedlings raised in greenhouses.

AUTHORS: YANG Zhongliang [2799 1350 5328], HUANG Shuming [7806 2885 2494]

ORG: Mengshan County Scientific and Technical Committee, Guangxi

TITLE: "Good Results From Use of Blue Plastic Mulch to Raise Rice Seedlings"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 2, 1981 p 3

ABSTRACT: Tests of plastic films of various colors in mulching rice seedlings indicated that blue film was the best, followed by clear film, while orange and yellow films were not suitable. The blue and green light which the blue film passes encourages plant growth. The blue film also produces a greater temperature rise than the clear film. The seedlings grown with blue film had better quality and germination rates and better tillering and earing. The blue film gave yields 30-50 jin per mu greater than clear film. The blue film also proved to be less subject to aging than the clear film.

8480
CSO: 4009/329

AUTHOR: None

ORG: Hexiangqiao Commune Agricultural Science Station, Longhui County, Hunan

TITLE: "Good Results from Addition of Fertilizer to Early Rice Seedlings When Transplanting"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 5, 17 May 81 p 5

ABSTRACT: In 1979 and 1980 the practice of directly fertilizing early rice seedlings when transplanting (either by direct introduction of fertilizer into the soil or by soaking the roots) was instituted in Hexiangqiao Commune; in 1980 the method was used on 9,070 mu, 73.5 percent of the total rice area, helping the plants to withstand cold, wet soil conditions. The treated plants turned green 3 to 7 days earler and tillered 7 to 10 days earlier than the nontreated plants. The method uses less fertilizer and produces a larger effective earing rate, earlier ripening and higher yields (by 20-30 percent).

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AUTHOR: Huang Gongwu [7806 0501 2976]

ORG: Fangcheng County Scientific and Technical Committee, Henan Province

TITLE: "Use of Male Sterile Corn Variety to Expand Production of C704 Hybrid"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 5, 17 May 81 p 11

ABSTRACT: One of the main difficulties involved in producing hybrid corn is the complete detasseling of the maternal parent; because of insufficient manpower or poor-quality work, this is often done inadequately, resulting in an admixture of unwanted varieties in the resulting seed. Accordingly the production of the hybrid variety C704 (type C Xiangnong 704) was attempted by crossing male-sterile Cms Ernan 24 with restorer line 525. First, tests were made to assure that the C704 hybrid gave good yields. In one test, a yield of 1,168.7 jin per mu over a 15-mu area was obtained. Next it was necessary to assure that C Ernan 24 was sufficiently male-sterile. Tests in 1978 and 1979 indicated that the variety was 99.8 percent male sterile. Finally, tests were conducted to assure that the pollination and fruiting rates for C704 were satisfactory. In 1981 it is planned to expand the use of this variety to more than 100,000 mu, or 30 percent of the total corn area in Fangcheng County; it may account for 70 percent of seed corn land.

AUTHOR: Xu Zhaofei [1776 0340 7378]

ORG: Shanxi Province Wheat Research Institute

TITLE: "Low-Temperature Storage of Wheat Pollen"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 5, 17 May 81 p 15

ABSTRACT: It was found that when collected at the proper time, wheat pollen could be stored in a refrigerator at 3-4° C in tap water. When used after 14 days it produced a hybrid fruiting rate of up to 80 percent. For relatively long storage, the water is changed once or twice. When the pollen is to be used, it is placed in a cool location for 10 to 20 minutes.

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AUTHORS: Wang Lanjun [3769 5695 0689], Wang Zhongjing [3769 1813 4842]

ORG: Caiyang County Agricultural Bureau, Shandong Province

TITLE: "Interplanting of Soybeans in Barley Fields"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 5, 17 May 81 p 18

ABSTRACT: In 1980, soybeans were interplanted in 44,000 mu of barley fields in Caiyang Province, resulting in yield increases of about 100 jin per mu and leading to earlier ripening by half a month. The soybeans were planted down the centers of every other row; the barley rows were 6 cun apart and the spacing of the soybean rows was thus 1.2 chi. Hills were 6-8 cun apart with 2-3 plants per hill, and planting was done 10-15 days before the barley was to be harvested. Combined interplanting of soybeans and corn with barley was also successfully attempted. The possibility of earlier planting is a principal reason for the success of this method, since it allows the seed to germinate before a recurring rainy season which often reduced germination, and allows the use of varieties with a longer growing season, which produce higher yields.

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Sept. 29, 1981

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